



CITY COUNCIL

AGENDA REQUEST

AGENDA OF:	SEPTEMBER 04, 2007	AGENDA REQUEST NO:	IV A
INITIATED BY:	PETE POLITO, PROJECT MANAGER	RESPONSIBLE DEPARTMENT:	UTILITIES
PRESENTED BY:	SUELLEN STAGGS, DIRECTOR OF UTILITIES	DEPARTMENT HEAD:	SUELLEN STAGGS, DIRECTOR OF UTILITIES <i>SS</i>
		ADDITIONAL DEPARTMENT HEAD (S):	N/A
SUBJECT / PROCEEDING:	COLLECTION SYSTEM REHABILITATION – EAST & WEST INTERCEPTOR REHABILITATION & SOUTH SYSTEM 24-INCH FORCE MAIN REPLACEMENT AUTHORIZE ENGINEERING CONTRACT		
EXHIBITS:	PROJECT LOCATION MAPS ENGINEER’S PROPOSAL		
CLEARANCES		APPROVAL	
LEGAL:	N/A	EXECUTIVE DIRECTOR:	N/A
PURCHASING:	JENNIFER MONTGOMERY PURCHASING MANAGER <i>Jm</i>	ASST. CITY MANAGER:	KAREN GLYNN <i>Kg</i>
BUDGET:	JENNIFER BROWN, ASSISTANT FISCAL SERVICES DIRECTOR <i>JB</i>	CITY MANAGER:	ALLEN BOGARD <i>Kg</i> FOR AB
BUDGET			
EXPENDITURE REQUIRED: \$		206,725.00	
AMOUNT BUDGETED/REALLOCATION: \$		210,615.00	
ADDITIONAL APPROPRIATION: \$		N/A	
RECOMMENDED ACTION			
The Utilities Department staff is requesting that City Council authorize the execution of a professional services contract between the City and Claunch & Miller, Inc., for engineering services and design of the Collection System Rehabilitation – East & West Interceptor Rehabilitation & South System 24-Inch Force Main Replacement Project, in an amount not to exceed \$206,725.00			

EXECUTIVE SUMMARY

As a result of several Utilities studies previously conducted, staff has identified priority Wastewater projects needing rehabilitation. These projects include Phase One of the East & West Interceptor Rehabilitation Project and the South System 24-Inch Force Main Replacement Project, which is recommended to be designed as a single project.

Accordingly, the Utilities Department solicited a proposal from the firm of Claunch & Miller, Inc., (CMI) to provide engineering services for this Rehabilitation Program. CMI was specifically selected for this project because this firm has had the greatest amount of involvement with the previous project components. Because of CMI's previous review and evaluation of these specific line segments, staff was able to move directly to final design, thus reducing overall engineering costs and shortening the design time for these critical collection system lines.

The scope of work for this project includes the following services for each of the three specific sections of the City's collection system:

Basic Engineering Services & Design Phase Services

- Prepare Design Plans, Technical Specifications and Special Conditions to contract documents
- Prepare Itemized Bid Form and Proposal (City will supply format)
- Easement Preparations
- Permits & Agency Approvals – TxDOT, Levees & Pipe Lines

Bid Phase Services

- Assist City in preparing advertisement of Project (Notice to Bidders)
- Attend pre-bid conference
- Assist City in receiving bids from contractors
- Review bids, prepare bid tabulation and assist City in awarding contract

Additional Engineering Services

- Surveying
- Geotechnical

Below you will find additional detail on the scope and phasing of each of the individual projects, which are also highlighted on the two attached maps.

East and West Interceptors

The City's North Wastewater Collection System's two major interceptor trunk mains, the East and West Interceptors, were constructed in 1985 and 1974, respectively. Both interceptors receive flow from several lift stations and gravity service areas and are responsible for conveying a large percentage of the North Wastewater Treatment Plant's designed average daily flow of 6.0 MG.

Due to the critical nature of the interceptors, a TV inspection was completed on both mains in early 2007. The inspection identified severe deterioration in the West Interceptor and intermittent deterioration of the East Interceptor. The evaluation recommended complete rehabilitation of the West Interceptor and rehabilitation of the deteriorated segments of the East Interceptor. The project will be completed in two phases. Phase One of the Interceptors' rehabilitation, which is included in this design contract, includes approximately 6,656 L.F. of 36-inch to 48-inch pipe to be rehabilitated through various methods; rehabilitation of all manholes pipe segments; and heavy cleaning of the approximate 6,940 L.F. remaining balance of the West Interceptor. The construction estimate for Phase One of the Interceptor's rehabilitation is \$2,100,000 and funding was requested through the FY2008 CIP process. Phase Two of the Rehabilitation is recommended for FY2009 Design and FY2010 Construction.

South Wastewater Collection System

The City's South Wastewater Collection System's force main trunk system was constructed between 1985 and 1987. The force mains are responsible for conveying approximately 80 percent of the South Wastewater Treatment Plant's average daily flow. The system began experiencing numerous failures in 2004. An evaluation of the system completed in 2004, concluded that over 75 percent of the force main should be replaced within five years, with some sections requiring immediate replacement. As of this date, approximately 6,400 L.F. has been replaced and an additional 7,400 L.F. is under design for replacement/upgrade as part of the North Treatment Plant Flow Diversion Project. CMI's scope of work in this proposed contract includes the remaining 2,500 L.F. located along the old Bullhead Slough drainage easement from the Mesquite lift station to Commonwealth Boulevard. The construction estimate for replacement of this section of force main is \$303,000 and funding is being requested through the FY2008 CIP process.






Engineering services for the design of this Rehabilitation Program – Phase One East & West Interceptor Rehabilitation & South System 24-Inch Force Main Replacement Projects have been included in the 2007 Capital Improvement Plan. Currently there is a total of \$210,615 available in the Collection System Rehabilitation Projects (\$150,000 in CIP No. WW0704 and \$60,615 in WW0601). Based on CMI's proposal, which calls for a six-month design completion, it is anticipated that construction should begin in March 2008 and should be completed by the end of FY2008.

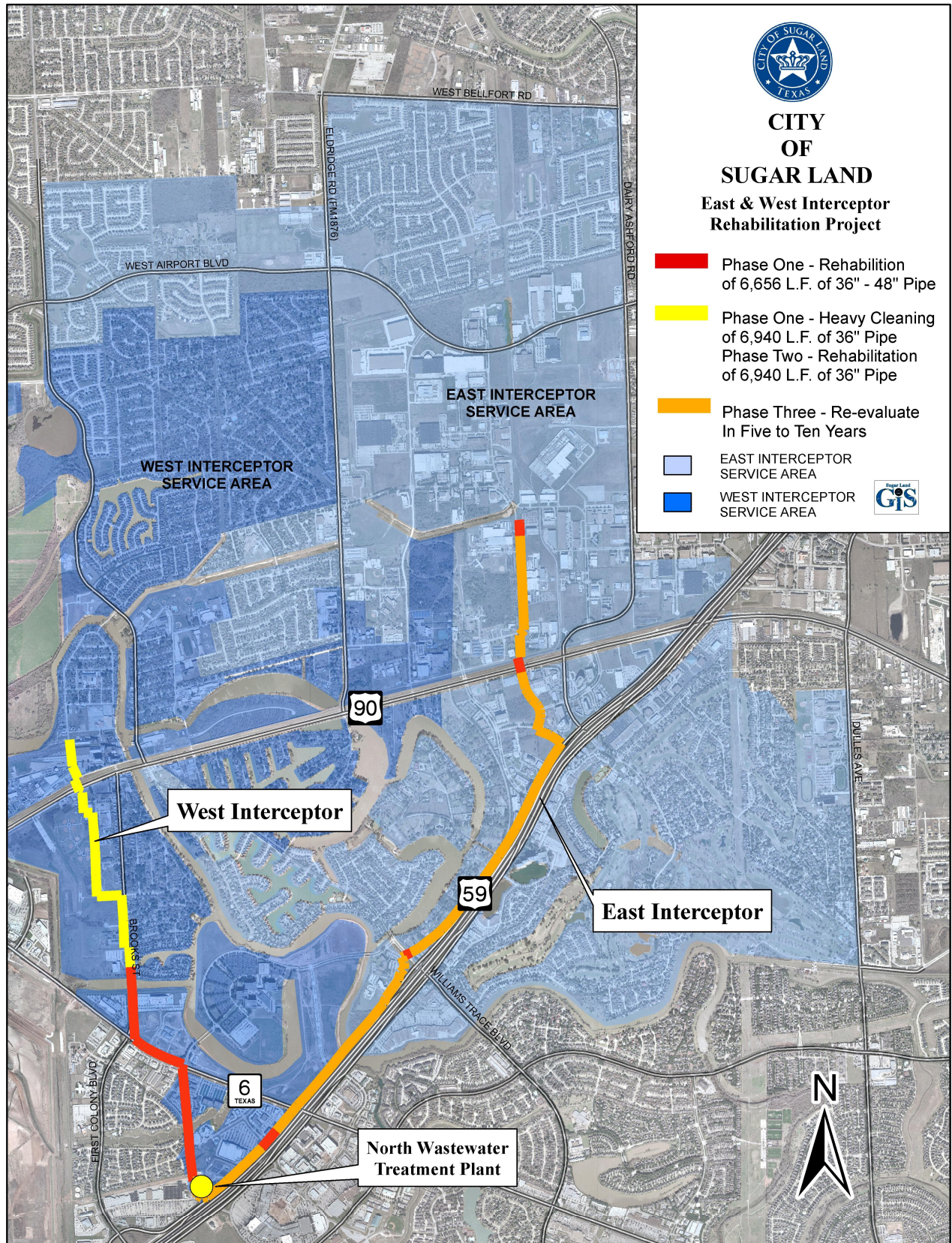
Staff recommends City Council authorize the execution of a professional services contract between the City and Claunch & Miller, Inc., for engineering services and design of the Collection System Rehabilitation Program– Phase I East & West Interceptor Rehabilitation & South System 24-Inch Force Main Replacement Projects, in an amount not to exceed \$206,725.00

EXHIBITS



**CITY
OF
SUGAR LAND**
**East & West Interceptor
Rehabilitation Project**

-  Phase One - Rehabilitation
of 6,656 L.F. of 36" - 48" Pipe
-  Phase One - Heavy Cleaning
of 6,940 L.F. of 36" Pipe
Phase Two - Rehabilitation
of 6,940 L.F. of 36" Pipe
-  Phase Three - Re-evaluate
In Five to Ten Years
-  EAST INTERCEPTOR
SERVICE AREA
-  WEST INTERCEPTOR
SERVICE AREA

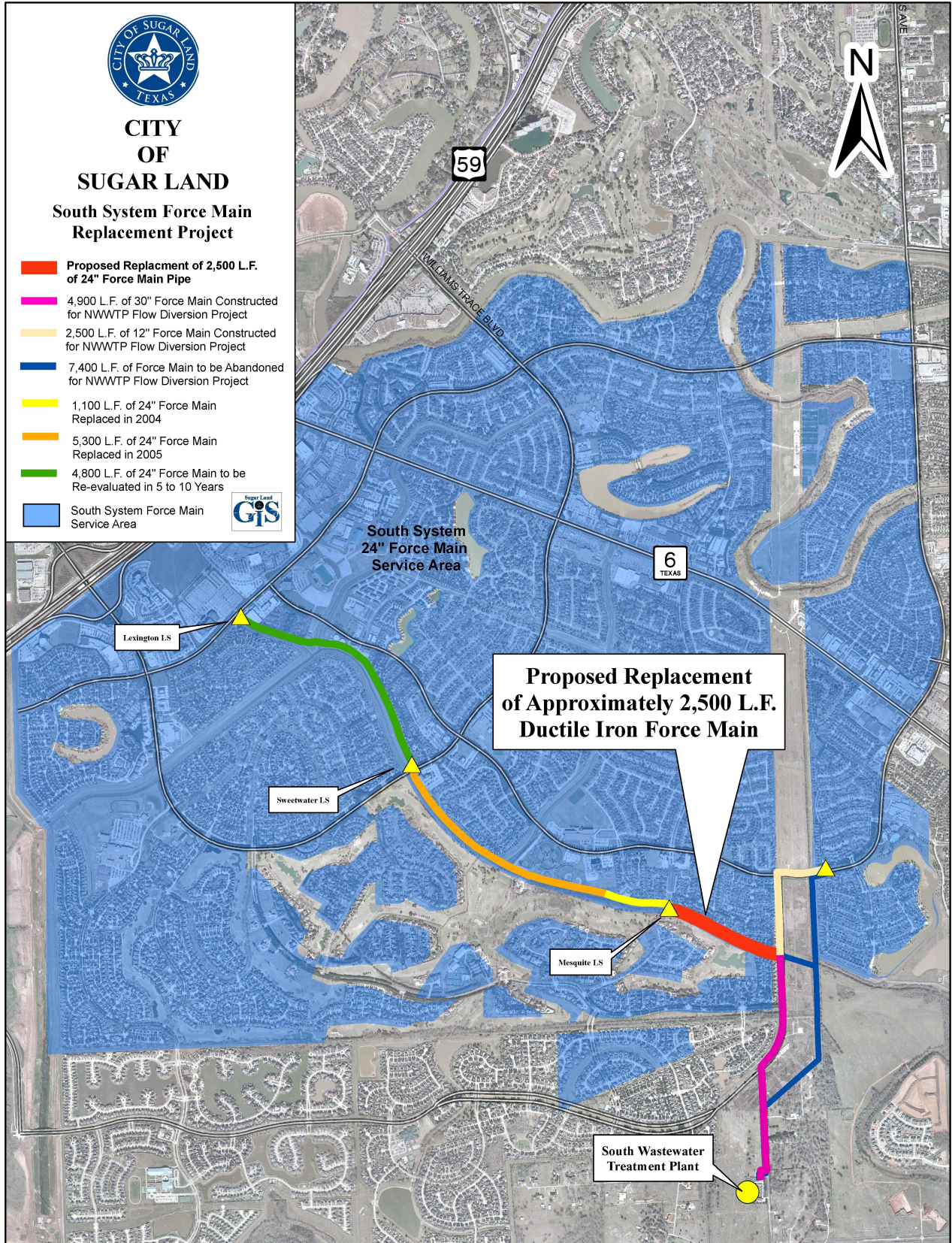




CITY OF SUGAR LAND

South System Force Main Replacement Project

- █ Proposed Replacement of 2,500 L.F. of 24" Force Main Pipe
- █ 4,900 L.F. of 30" Force Main Constructed for NWWTP Flow Diversion Project
- █ 2,500 L.F. of 12" Force Main Constructed for NWWTP Flow Diversion Project
- █ 7,400 L.F. of Force Main to be Abandoned for NWWTP Flow Diversion Project
- █ 1,100 L.F. of 24" Force Main Replaced in 2004
- █ 5,300 L.F. of 24" Force Main Replaced in 2005
- █ 4,800 L.F. of 24" Force Main to be Re-evaluated in 5 to 10 Years
- █ South System Force Main Service Area



July 17, 2007

Mr. Pete Polito
CIP Project Manager
City of Sugar Land
111 Gillingham Lane
Sugar Land, Texas 77478

Re: Proposal for Sanitary Sewer Rehabilitation & Force Main Replacement Project
City of Sugar Land

Dear Mr. Polito:

Claunch & Miller, Inc. (CMI) is pleased to submit this proposal for performing engineering services for the above referenced phase of Sugar Land's Wastewater Collection System Management Program. The proposal is based on our understanding of the project as discussed in our previous meetings and conversations. For your convenience, this proposal consists of General Overview, Scope of Services, and Fee.

GENERAL OVERVIEW

The East Interceptor sanitary sewer trunk main includes approximately 17,125 L.F. of 18-inch to 48-inch sanitary sewer and the West Interceptor sanitary sewer trunk main includes approximately 11,830 L.F. of 36-inch sanitary sewer that discharge into the City's North Wastewater Treatment Plant. This project will consist of rehabilitating segments of sanitary sewer trunk main designated as needing rehabilitation. This proposal is based on the recommendations outlined in the report "East and West Interceptor Sanitary Sewer Trunk Main Evaluation Study" submitted to the City of Sugar Land in July 2007. This proposal also includes the replacement of approximately 2,500 L.F. of 24-inch sanitary sewer force main between Settlers Way Lift Station and Commonwealth Blvd. outfall. From previous evaluation studies and maintenance efforts expended by the City and increased deterioration levels exhibited by the force main located upstream and downstream of this alignment, this segment of the sanitary sewer force main was recommended for replacement by the City.

The budget allocated by the City for the sanitary sewer interceptor and sanitary sewer force main improvements is \$2,700,000 (which includes construction costs and engineering phase services costs). Due to the specialized construction techniques that will be utilized to rehabilitate the sanitary sewer interceptor trunk main, and to obtain competitive bids for the project, it is recommended that the sanitary sewer interceptor rehabilitation and the force main replacement be designed and bid as separate packages.

This agreement anticipates providing engineering design services for the rehabilitation of the sanitary sewer interceptor trunk main and the replacement of an existing 24-inch force main. This proposal addresses the engineering design services CMI will provide the City of Sugar Land, as well as associated Surveying and Geotechnical and other services necessary to support the project. This proposal also includes preparation of easement documents for installation of the 24-inch force main within a proposed 20-foot easement that will be aligned parallel to the existing easement. This proposal does not include any costs for easement acquisitions. The City will coordinate with the entities for obtaining the easements. No detailed topographic survey will be performed for the proposed sanitary sewer interceptor trunk main rehabilitation as part of this project. To this end, the City desires that schematic and or aerial layout maps in lieu of obtaining detailed topographic survey information be utilized for the drawings portion of the construction documents. Where it

is determined that more detailed information will be required, then survey work will be obtained and included in the design package. .

In summary this proposal includes:

- Preparation of engineering plans and specifications for the rehabilitation of approximately 6,291 L.F. of 36-inch thru 48-inch sanitary sewer interceptor trunk main. The estimated construction cost for performing the improvements is \$2,101,500. This proposal will also include preparation of engineering plans and specifications for the rehabilitation of approximately 365 L.F. of 36-inch sanitary sewer interceptor trunk main, and cleaning of 6,940 L.F. of 36-inch sanitary sewer interceptor trunk main. The estimated construction cost for performing the improvements is \$303,500. This work will be packaged as part of the project as an add alternate bid.
- Preparation of engineering plans and specifications for the replacement of approximately 2,500 L.F. of 24-inch sanitary sewer force main between Settlers Way Lift Station and Commonwealth Blvd. Outfall. The estimated construction cost for performing the improvements is \$366,000.

As requested by City staff, this proposal does not address any construction phase services. Claunch & Miller, Inc. will submit a separate proposal for providing the construction phase services at a later date. Based on conversations with City staff, a Phase I Environmental Site Assessment will not be necessary for this Project. The scope of work includes:

SCOPE OF SERVICES

1. Survey Services – Topographic Survey

- Obtain topographical survey that will provide information suitable for design of the force main replacement. Anticipated total length will be approximately 2,500 L.F.
- Utilize a subcontract surveyor mutually agreeable to the City and CMI.
- Topographical survey is not anticipated to be required for the interceptor rehabilitation. However, it is recommended that a budget be allocated that will be utilized with approval from the City.

2. Easement Document Preparation

- Prepare easement documents as necessary to facilitate force main replacement. At this time it is anticipated that the force main will be designed so that it can be installed within the limits of a proposed 20-foot easement.
- The easement locations will be determined based on final alignment of the proposed force main.
- Perform sufficient boundary survey to prepare the easement documents.
- The City of Sugar Land will coordinate with the property owners for acquiring easements necessary for the project.

- At this time, it is anticipated that three easements will be required for the force main installation.

3. Geotechnical Services

- Soil borings will be drilled along the alignment to evaluate subsurface conditions. Approximately 6 borings will be performed for the force main installation project, and approximately 5 borings will be performed for the sanitary sewer interceptor rehabilitation project. Due to the trenchless rehabilitation techniques (limited excavation) anticipated to be utilized on this project, soil borings at 500-foot intervals and at each improvement location will not be taken for the sanitary sewer interceptor rehabilitation project. Instead borings will be taken across the project area at random locations to provide an overall estimated representation of geotechnical conditions. It must be understood that such representation may change throughout the project locations.
- A geotechnical report will be prepared which will provide recommendations and construction criteria for the project.
- Utilize a subcontract geotechnical firm mutually agreeable to the City of Sugar Land and CMI.

5. Design Phase

Force Main Replacement Bid Package

- Research and gather existing relevant data on the project such as existing utility information and drawings on existing force main, as available.
- Obtain available record drawings from the City.
- Contact private utility companies, and other entities that may be involved to obtain information on their existing facilities and requirements that may impact this project.
- Prepare base mapping of the project area.
- Plot survey data of the proposed alignment.
- Examine geotechnical information to determine potential soil conditions and potential impact on construction methodology and costs.
- Coordinate with the City of Sugar Land during the design phase and apprise the City of CMI's findings and obtain input from the City.
- Prepare project specifications, drawings, bid documents and construction drawings based on anticipated improvements.
- Coordinate and meet with construction contractors performing similar work and obtain information on construction costs, constructability issues and any other items that would aid

with the design.

- Prepare final cost estimate for the project.
- Complete coordination with other governmental entities or utility agencies in regard to the project. Obtain approvals required by governmental authorities with jurisdiction over the design and/or operation of the project and public and private utilities, including pipeline companies affected by this project. The City of Sugar Land will pay the fee for permits required for this project.
- Coordinate with the City of Sugar Land during the design phase.
- Provide a set of draft plans and specifications for City of Sugar Land's review and comments.
- Incorporate the City's comments into the Final Design Plans and Specifications.
- Incorporate appropriate comments from all pertinent entities into the final bid documents.
- Prepare final cost estimate for the project.
- Furnish five (5) sets of construction documents to the City.

Sanitary Sewer Interceptor Rehabilitation Bid Package

- Research and gather existing relevant data on the project such as existing utility information, information from petrochemical pipeline companies, and drawings on existing main, as available.
- Contact private utility companies, and other entities that may be involved to obtain information on their existing facilities and requirements that may impact this project.
- Obtain available record drawings on sanitary sewer lines designated for rehabilitation from the City.
- Coordinate with other governmental entities, which may be impacted by the project.
- Perform field reconnaissance of the sanitary sewer main location areas to obtain information on surface features and any other information that would impact construction cost and methodology of rehabilitation. The information gathered from the field visit will be included in the schematic layout drawings that would aid the design efforts.
- Review and evaluate available television inspection videotapes of the sanitary sewer lines designated for rehabilitation.
- Obtain and examine available maintenance data on sanitary sewer lines designated for rehabilitation.
- Assess the condition of the sanitary sewer lines and confirm a method of rehabilitation. The methodology of rehabilitation will be based on an examination of the data collected from the

site reconnaissance survey, examination of project area, and review of available television inspection and maintenance data from City.

- Open, measure, and evaluate manholes along the sanitary sewer lines designated. These evaluations will be for general deterioration and condition purposes. Obtain available manhole inspection data from the City.
- Recommend suitable rehabilitation methods for manholes along the sanitary sewer lines designated for rehabilitation.
- Prepare project specifications, drawings, bid documents and construction drawings based on anticipated improvements.
- The design shall include the sanitary sewer lines identified by the City that can be rehabilitated with the available construction budget of \$2,101,500. CMI will inform the City of the cost estimate as the project progresses.
- Prepare an add alternate bid for the project. The add alternate bid will include the design of the sanitary sewer lines identified as Priority Level 1B in the Evaluation Report prepared by CMI in July 2007.
- Complete coordination with other governmental entities or utility agencies in regard to the project. Obtain approvals required by governmental authorities with jurisdiction over the design and/or operation of the project and public and private utilities, including pipeline companies affected by this project. The City of Sugar Land will pay the fee for permits required for this project.
- Coordinate with Texas Department of Transportation (TxDOT) for work performed within TxDOT right of way (US 59, US 90A, and State Highway 6).
- Prepare traffic control plans for work within TxDOT right of way for submittal to obtain permit for performing the proposed work.
- Submit all necessary documentation for obtaining permits for performing the work.
- Coordinate and meet with construction contractors performing similar work and obtain information on construction costs, constructability issues and any other items that would aid with the design.
- Coordinate with the City of Sugar Land during the design phase.
- Provide a set of draft plans and specifications for City of Sugar Land's review and comments.
- Incorporate the City's comments into the Final Design Plans and Specifications.
- Incorporate appropriate comments from all pertinent entities into the final bid documents.
- Prepare final cost estimate for the project.

- Furnish five (5) sets of construction documents to the City.

6. Bid Phase Services

- Assist the City in obtaining bids for both the bid packages i.e., Force Main Replacement Bid Package & Sanitary Sewer Interceptor Rehabilitation Bid Package.
- Dispense construction documents from CMI's office to potential bidders for both the packages.
- During the bidding process, provide information to and answer questions from potential bidders concerning the Projects construction documents and prepare addendums as necessary for both the bid packages
- Conduct a pre-bid conference for potential bidders for each bid package.
- Evaluate the bids and the qualifications of the apparent low bidders and advise the City as to the acceptability of the apparent low bidder for each bid package.

B. Special Services

Special services are those services that are beyond the basic services provided for in the scope portion of this proposal.

Due to the nature of this project there are certain Special Services that are anticipated and other special services that may or may not be required. In the fee portion of this proposal the special services that are anticipated are listed. Anticipated special services and potential special services include:

Reproduction

- Costs for reproduction will be charged under special services for reproduction of plans, specifications and reports beyond the three (3) sets of construction documents provided (as listed in the design services) to the City.
- Reproduction for review sets, submittals to the City, governmental agencies, and utility companies will be included in the cost for reproduction.

FEE

The fee for the project is shown below.

Force Main Replacement Bid Package

Design Services: the Lump Sum amount:	\$28,975.00
Bid Phase Services: the Lump Sum amount:	\$5,750.00
*Geotechnical Study: Cost plus 10%	\$5,000.00
*Topographic Survey: Cost plus 10%	\$7,750.00
*Easement Documentation: Cost plus 10%	\$2,500.00
<i>Special Services:</i>	
*Reproduction: Cost plus 10%	<u>\$750.00</u>
<i>Subtotal:</i>	\$50,725.00

Sanitary Sewer Interceptor Rehabilitation Bid Package

Design Services: the Lump Sum amount:	\$145,250.00
Bid Phase Services: the Lump Sum amount:	\$4,000.00
*Geotechnical Study: Cost plus 10%	\$6,000.00
<i>Special Services:</i>	
*Reproduction: Cost plus 10%	<u>\$750.00</u>
<i>Subtotal:</i>	\$156,000.00

Total Design and Bid Phase: \$206,725.00

*At this time the magnitude of these tasks are not known. Therefore a budgetary amount is provided. The figure may increase or decrease depending upon actual work required. If an increase becomes necessary it can be accomplished by utilizing available funds from other line items that have under run or by contract amendment.

All hourly charges shall be charged based on a raw labor rate times a multiplier of 3.05, reimbursable expenses will be charged at cost plus 10%. Mileage will be charged at a rate of \$0.41 per mile.

Additional Services

Additional services will be invoiced on the basis of direct labor cost times a factor of 3.05 and direct cost plus 10%. No additional services will be performed or invoiced without prior authorization from the City of Sugar Land.

PROJECT SCHEDULE

It is anticipated that the total time from authorization to completion of the project will be approximately six (6) months. The Force Main Replacement Bid Package will be completed approximately within four (4) months of the date of authorization.

Claunch & Miller, Inc. will submit monthly progress invoices for all engineering work completed to invoice date.

Claunch & Miller, Inc. appreciates the opportunity to submit this proposal and we look forward to continuing our work with the City of Sugar Land.

Sincerely,

CLAUNCH & MILLER, INC.

Madhu Kilambi, P.E.
Senior Project Manager